

# Arizona State Retirement System

## Investment Program Report

March 18, 2011

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NEPC, LLC



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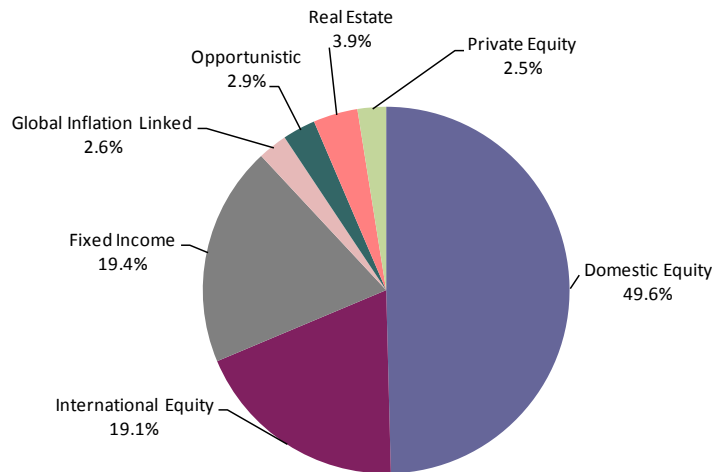
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\*Evaluation period ending Dec. 31, 2010

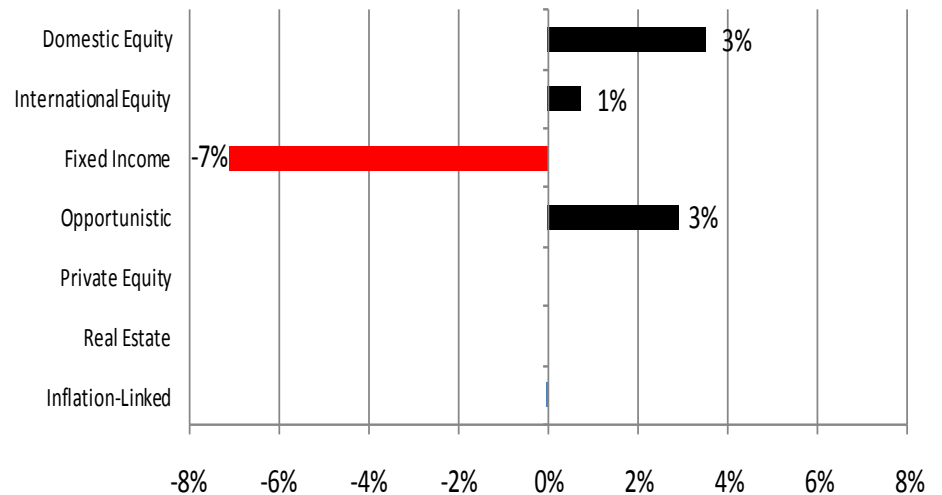
**Past**

# Total Fund Asset Allocation

**Actual Asset Allocation**



**Actual Asset Allocation vs. SAA Policy  
Adjusted for Transition into Real Estate,  
Private Equity and Inflation-Linked Assets\***




\*Real Estate, Private Equity and Inflation-Linked Assets actual weights are equal to policy weights during the implementation of these asset classes.

\*Over/Under- weights include both GTAA positions as well as IMD tactical considerations.

Note: Real Estate and Private Equity market values are reported on a quarter-lag and adjusted to include the current quarter's cash flows. Within the Policy Adjusted for Transition chart, Real Estate was prorated to domestic equity, international equity and fixed income, while Private Equity and Inflation-Linked Assets were prorated to domestic equity.

# Investment Program Investment Goals

- Macro
- 
- Goal #1: Achieve a total fund rate of return equal to or greater than the actuarial assumed interest rate.
  - Goal #2: Achieve a total fund rate of return equal to or greater than the strategic asset allocation policy.
  - Goal #3: Achieve a total fund rate of return equal to or greater than the amount projected in the most recent asset allocation study.
  - Goal #4: Achieve asset class net rates of return equal to or greater than their respective broad asset class benchmarks.
  - Goal #5: Achieve portfolio-level net rates of return equal to or greater than their respective portfolio benchmarks.
  - Goal #6: Ensure sufficient monies are available to meet cash flow requirements.
- Micro

# Total Fund Performance

- Goal #1: Achieve a total fund rate of return equal to or greater than the actuarial assumed interest rate.

	<u>20 Year Annualized Return</u>
Total Fund	9.0%
Constant 8%	<u>8.0%</u>
Excess Return	1.0%

**Goal Met: Yes**

# Total Fund Performance

- Goal #2: Achieve annual and three-year rolling annual rates of return equal to or greater than the return of the Strategic Asset Allocation Policy (SAA Policy)

	Quarter	6 Months	1 Year	3 Years	5 Years	10 Years	Since Inception (6/30/75)
<b>Total Fund</b>	7.8%	17.7%	<b>14.7%</b>	<b>0.7%</b>	4.4%	4.3%	10.0%
<b>Interim SAA Policy<sup>1</sup></b>	7.2%	17.3%	<b>13.8%</b>	<b>0.1%</b>	4.4%	3.8%	9.7%
<b>Excess Return</b>	0.6%	0.4%	<b>0.9%</b>	<b>0.6%</b>	0.0%	0.5%	0.3%

**1 Year Goal Met: Yes**  
**3 Year Goal Met: Yes**

# Total Fund Attribution Analysis

<b>Total Plan</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>
Allocation Effect <sup>1</sup> :	-0.11	0.18	0.10
Manager Selection Effect <sup>2</sup> :	0.86	0.60	0.00
Residual <sup>3</sup>	0.12	-0.14	-0.06
<b>Excess Return</b>	<b>0.87</b>	<b>0.64</b>	<b>0.04</b>

Source: State Street Investment Analytics

<sup>1</sup>Contribution due to over/underweights relative to Interim\* Strategic Asset Allocation Policy.

<sup>2</sup>Contribution due to manager selection (net) and interaction effect.

<sup>3</sup>Contribution due to activities not captured in Allocation and Manager Selection Effects.

\*Pro-rates unfunded Real Estate, Private Equity and Commodities allocations





# Total Fund Attribution Detail

## **1 Year Excess Return: 0.9%**

- Allocation Effect: -0.11%
  - Fixed Income tactical underweight (+0.25%)
  - Large Cap Equity tactical underweight (-0.20%)
  - GTAA tactical weightings (-0.13%)
- Manager Selection Effect: 0.86%
  - GTAA outperformed due to Bridgewater (+0.65%)
  - Opportunistic effects (+0.16%)
- Residual Effect: 0.12%

## **3 Years Excess Return: 0.6%**

- Allocation Effect: 0.18%
  - Real Estate tactical underweight (+0.23%)
  - International Equity tactical underweight (-0.07%)
- Manager Selection Effect: 0.60%
  - GTAA outperformed due to Bridgewater (+0.40%)
  - Fixed Income outperformed due to F2 and BlackRock portfolios (+0.15%)
  - Residual Effect: -0.14%

## **5 Years Excess Return: 0.0%**

- Allocation Effect: 0.10%
  - Fixed Income tactical underweight (+0.10%)
  - International Equity tactical underweight (-0.08%)
  - Small Cap Equity tactical overweight (+0.07%)
- Manager Selection Effect: 0.00%
  - International Equity underperformed due to Brandes and terminated managers (-0.27%)
  - GTAA outperformed due to Bridgewater (+0.21%)
  - Fixed Income outperformed due to F2 and BlackRock (+0.09%)
- Residual Effect: -0.06%

# Total Fund Performance

- Goal #3: Achieve a five-year rolling annual rate of return equal to or greater than the projected return expectation in the ASRS Asset Allocation Study.

	<u>5 Year Annualized Return</u>
Total Fund	4.4%
AA Expected Return	<u>8.4%</u>
Excess Return	<b>-4.0%</b>

Goal Met: **No**

# Asset Class Performance vs. Benchmark

- Goal #4: Achieve annual and three-year rolling annual investment asset class net rates of return equal to or greater than their respective broad asset class

	1 Year Return	3 Year Return
ASRS Domestic Equity	19.2%	-0.3%
Domestic Benchmark <sup>1</sup>	18.0%	-1.2%
Excess Return	1.2%	0.9%
ASRS Int'l Equity	11.9%	-4.3%
MSCI ACWI ex U.S.	11.6%	-4.6%
Excess Return	0.3%	0.3%
ASRS Fixed Income	7.1%	6.6%
BC Aggregate	6.5%	5.9%
Excess Return	0.6%	0.7%
ASRS GTAA	19.1%	3.7%
Custom Benchmark <sup>2</sup>	12.0%	-0.5%
Excess Return	7.1%	4.2%
ASRS Real Estate	6.9%	-13.1%
NFI - ODCE Index	7.0%	-10.6%
Excess Return	-0.1%	-2.5%
ASRS Private Equity	13.6%	-7.7%
Russell 2000	13.4%	-4.3%
Excess Return	0.2%	-3.4%
ASRS Opportunistic <sup>3</sup>	20.7%	n/a

**Goal Met: Partially**

<sup>1</sup>Domestic Equity Benchmark was S&P 500 through 12/31/2006 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter.

<sup>2</sup>GTAA Custom Benchmark is 56% S&P 500, 16% MSCI EAFE, 28% Barclays Capital Aggregate.

<sup>3</sup>Net absolute rate of return expectations range from 10-14% per annum.

# Manager Performance vs. Benchmark

- Goal #5: Achieve annual and three-year rolling annual portfolio level net rates of return equal to or greater than their respective policy benchmarks.

	1 Year	3 Years
Outperformers #	44	20
Underperformers #	51	19
Outperformers%	46%	51%

**1 Year Goal Met: No**  
**3 Year Goal Met: Yes**

# Cash Management

- Goal #6: Ensure all pension benefits, health insurance, member refunds, administrative payments and other requirements are made from available cash balances and without utilizing alternative liquidity options.

Month	Master Cash Balance pre-run	Net Pension Run	Master Cash Balance post-run
Apr-10	\$220,056,521	(\$152,698,575)	\$101,148,397
May-10	\$240,698,047	(\$152,380,236)	\$96,924,980
Jun-10	\$178,753,811	(\$152,930,630)	\$26,483,778
Jul-10	\$93,815,370	(\$156,329,556)	\$29,421,495
Aug-10	\$270,163,586	(\$159,316,955)	\$101,638,002
Sep-10	\$165,691,137	(\$160,397,420)	\$16,874,577
Oct-10	\$165,510,231	(\$160,863,730)	\$4,211,174
Oct-10	\$165,510,231	(\$160,863,730)	\$4,211,174
Nov-10	\$166,213,947	(\$161,193,482)	\$7,136,164
Dec-10	\$197,682,557	(\$159,768,652)	\$38,547,325
Jan-11	\$179,254,003	(\$160,153,928)	\$22,248,491

**All Pension Obligations, Capital Calls and Other  
Requirements Met with Available Cash**

**Goal Met: Yes**

# Total Fund Performance Comparison\*

<b>Independent Consultants Cooperative</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>	<b>Since Inception 6/30/75</b>
Master Trust - Total Funds	11	50	48	66	n/a
Total Funds - Public Funds	10	49	47	67	n/a
Total Funds over \$1B - Public	13	29	41	60	n/a
Total Funds - Corporate	13	50	55	70	n/a

<b>Callan Associates Inc.</b>	<b>1 Year</b>	<b>3 Years</b>	<b>5 Years</b>	<b>10 Years</b>	<b>Since Inception 6/30/75</b>
Master Trust - Total Funds	11	34	43	67	36
Total Funds - Public Funds	9	32	38	76	25
Total Funds over \$1B - Public	12	25	39	78	25
Total Funds - Corporate	18	43	49	70	n/a

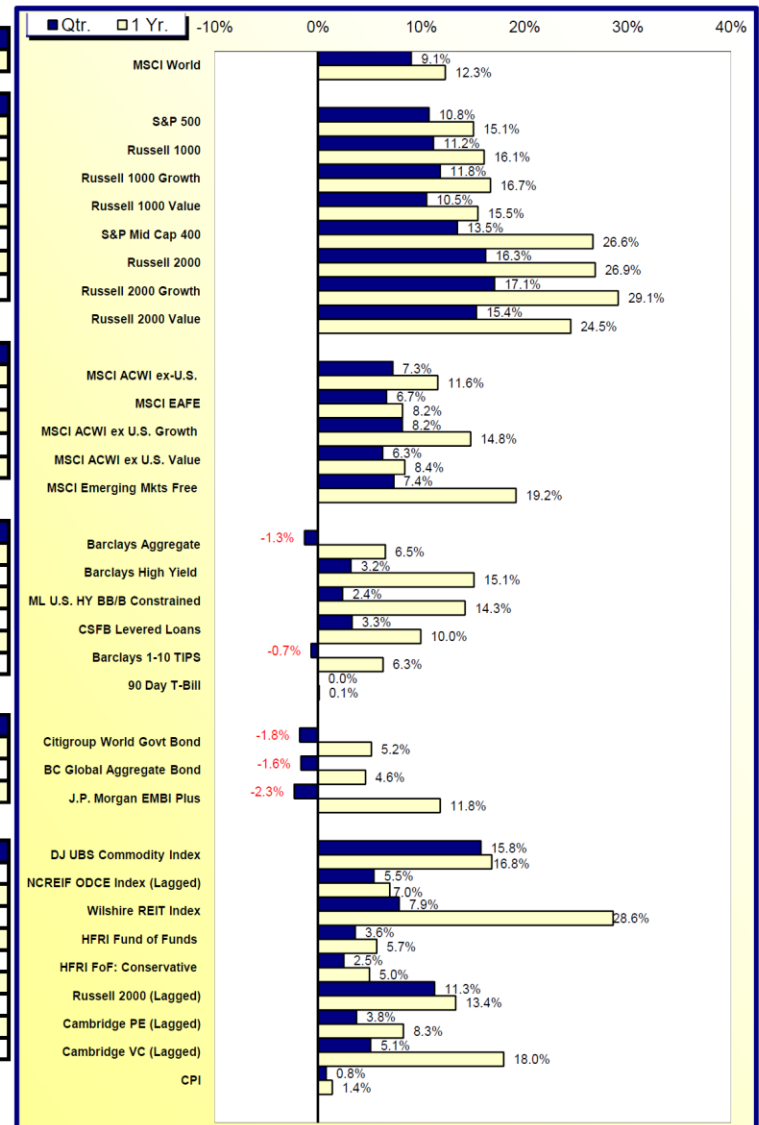
\*The information contained herein is for comparison purposes only and is not a Total Fund performance benchmark. Peer universe comparisons are subject to several limitations, including: peer groups are not comprehensive, several funds are included in multiple peer groups, peer groups are constructed using gross of fee returns and survivorship bias in that poorly performing funds may no longer continue to report results.

Note:

- Universes are constructed using gross of fee returns; therefore, the ASRS rank is based on gross of fee returns.
- Independent Consultants Cooperative's ranking not available going back to 1975 as database was created in 1992.
- Callan Associates' ranking for Total Funds - Corporate not available going back to 1975; database only goes back to 1985.

# Market Environment – Overview

			Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
<b>Domestic Equity Benchmarks</b>							
MSCI World	World		9.1%	12.3%	-4.3%	3.0%	2.8%
<b>Domestic Equity Benchmarks</b>							
S&P 500	Large Core		10.8%	15.1%	-2.9%	2.3%	1.4%
Russell 1000	Large Core		11.2%	16.1%	-2.4%	2.6%	1.8%
Russell 1000 Growth	Large Growth		11.8%	16.7%	-0.5%	3.8%	0.0%
Russell 1000 Value	Large Value		10.5%	15.5%	-4.4%	1.3%	3.3%
S&P Mid Cap 400	Mid Core		13.5%	26.6%	3.5%	5.7%	7.2%
Russell 2000	Small Core		16.3%	26.9%	2.2%	4.5%	6.3%
Russell 2000 Growth	Small Growth		17.1%	29.1%	2.2%	5.3%	3.8%
Russell 2000 Value	Small Value		15.4%	24.5%	2.2%	3.5%	8.4%
<b>International Equity Benchmarks</b>							
MSCI ACWI ex-U.S.	International		7.3%	11.6%	-4.6%	5.3%	6.0%
MSCI EAFE	Int'l Developed		6.7%	8.2%	-6.6%	2.9%	3.9%
MSCI ACWI ex U.S. Growth	Int'l Developed		8.2%	14.8%	-4.5%	5.6%	4.7%
MSCI ACWI ex U.S. Value	Int'l Developed		6.3%	8.4%	-4.8%	4.9%	7.1%
MSCI Emerging Mkts Free	Int'l Emerging		7.4%	19.2%	-0.0%	13.1%	16.2%
<b>Domestic Fixed Income Benchmarks</b>							
Barclays Aggregate	Core Bonds		-1.3%	6.5%	5.9%	5.8%	5.8%
Barclays High Yield	High Yield		3.2%	15.1%	10.4%	8.9%	8.9%
ML U.S. HY BB/B Constrained	High Yield		2.4%	14.3%	8.6%	7.6%	8.0%
CSFB Levered Loans	Bank Loans		3.3%	10.0%	4.4%	4.4%	4.8%
Barclays 1-10 TIPS	Inflation-Linked		-0.7%	6.3%	5.0%	5.3%	7.0%
90 Day T-Bill	Cash		0.0%	0.1%	0.8%	2.4%	2.4%
<b>Global Fixed Income Benchmarks</b>							
Citigroup World Govt Bond	Global Bonds		-1.8%	5.2%	6.2%	7.1%	7.0%
BC Global Aggregate Bond	Global Bonds		-1.6%	4.6%	5.1%	4.9%	5.2%
J.P. Morgan EMBI Plus	Em. Mkt. Bonds		-2.3%	11.8%	8.4%	8.4%	10.6%
<b>Alternative Benchmarks</b>							
DJ UBS Commodity Index	Commodities		15.8%	16.8%	-3.7%	1.2%	5.8%
NCREIF ODCE Index (Lagged)	Real Estate		5.5%	7.0%	-10.6%	-0.1%	5.0%
Wilshire REIT Index	REIT		7.9%	28.6%	0.2%	2.4%	10.5%
HFRI Fund of Funds	Hedge Funds		3.6%	5.7%	-2.5%	2.4%	4.2%
HFRI FoF: Conservative	Hedge Funds		2.5%	5.0%	-2.7%	1.6%	3.5%
Russell 2000 (Lagged)	Private Equity		11.3%	13.4%	-4.3%	1.6%	4.0%
Cambridge PE (Lagged)	Private Equity		3.8%	8.3%	-2.1%	4.9%	-6.6%
Cambridge VC (Lagged)	Venture Capital		5.1%	18.0%	0.4%	10.0%	8.5%
CPI	Inflation		0.8%	1.4%	1.4%	2.1%	2.3%



Note: Alternative Benchmarks NCREIF ODCE, Russell 2000, Cambridge Private Equity and Cambridge Venture Capital are lagged by one quarter. Performance shown as of September 30, 2010.

# Domestic and International Equities

- **U.S. Equity markets posted strong positive returns in the fourth quarter, pushing calendar-year 2010 returns higher.**
  - In this “risk on” market environment, riskier assets benefited. Although weak housing and high (but improving) unemployment persist, investor sentiment continues to drive markets, as investors focused on the Fed’s QE2 program designed to stimulate the economy and tax relief designed to increase business and consumer spending.
  - The S&P 500 returned 10.8% during the fourth quarter as all but the utilities sector posted positive returns during the period, with energy and materials leading the way.
- **S&P 500 appears close to fairly valued based on cyclically-adjusted P/E ratios.**
- **Earnings yields continue to exceed 10-year bond yields.**
- **Stock correlations fell significantly in Q4, representing an opportunity for active managers to benefit.**
- **S&P 500 momentum was positive at year end, with the 50-day moving average significantly higher than the 150-day moving average.**
- **Russell 2000 Index was up 16.3% during the fourth quarter and finished 2010 up 26.9%.**
  - From the end of August 2010 through year end, the Russell 2000 Index was up 31%.
  - Higher beta strategies outperformed higher quality, lower beta strategies.
- **Domestic Small Cap stocks outperformed Large Cap stocks by 5.1% in 2010.**
- **Growth stocks outperformed value stocks domestically and abroad in 2010.**
- **Domestic Equity (S&P 500) outperformed International Equity (MSCI ACWI ex-U.S.) in 2010 (+3.5%).**
  - Despite continuing concerns over European sovereign debt, strong economic data and the Fed’s QE2 program pushed non-U.S. markets higher in Q4.
  - Within the developed markets, economic strength in Asia contributed to strong performance in those markets, while healthier European economies (Germany and Norway) also delivered strong results. Greece, Spain and Portugal all declined amidst concerns over creditworthiness.
  - Emerging Markets continue to lead the way, outperforming developed markets by 11.0% in 2010. Weak U.S. currency was an overall tailwind for emerging currencies during the period.

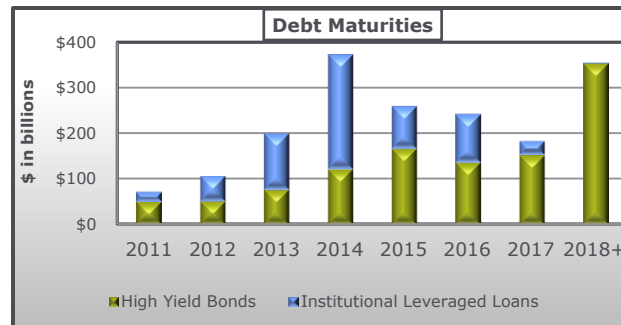


# Fixed Income

- **2010 was a strong year for fixed income across all sectors.**
  - Persistently low levels of inflation combined with accommodative Fed policy held interest rates near record lows during the fourth quarter. The yield on the Barclays Capital U.S. Aggregate Bond Index fell to an all-time low of 2.35% in November 2010, reflecting the pessimistic outlook on inflation and growth that investors' felt for the majority of the year.
  - The extension of the Bush tax cuts as well as a mid-term election that resulted in a divided Congress caused rates to rise rapidly in December, pricing in a more optimistic economic outlook for 2011.
  - Spread tightening in credit sectors, coupled with the fact that many of the macroeconomic themes that drove equity market returns also influenced the fixed income markets, allowed active managers, in aggregate, to have a relatively strong year in 2010.
- **Interest rates rose across the U.S. Treasury yield curve, with the yield on the 10-year Treasury note rising 77 basis points to 3.30%.**
  - The yield curve once again looks very steep, with short term rates anchored near zero.
- **The Barclays Capital U.S. Aggregate Bond Index returned -1.3% in the fourth quarter, reflecting the rapid shifting of the yield curve in December.**
  - As the economic outlook improved late in the year, Treasuries and other higher quality bonds sold off while high yield fixed income, emerging markets debt and commercial mortgage-backed securities (CMBS) benefitted.
  - U.S. Agency mortgage-backed securities (MBS) and CMBS were the only positive performing U.S. fixed income sectors during the quarter, other than high yield bonds.
- **High yield bonds were up 3.2% during the quarter, with the lowest quality segments producing the strongest results.**
- **Emerging markets debt were down 1.8% during the quarter, as these markets felt the pressure of rising interest rates in the fourth quarter. However, results were strong over the year, returning 12.0% for the period (after losing 1.8% in the fourth quarter).**
- **Consistent with our recommendation to focus on portfolio structuring, we continue to recommend reviewing core and core-plus fixed income allocations, and also favor opportunities in emerging markets debt denominated in local currency.**

# Private Markets

- **During 2010, 95 U.S.-based private equity funds closed on \$85 billion in commitments – the lowest amount raised since 2003.**
  - Fundraising continues to be affected by liquidity challenges for plan sponsors and the private equity capital overhang of \$485 billion.
  - On average, it has taken funds 19 months to close fundraising (compared to 12 months in 2005).
  - Average fund size is \$911 million in 2010, down from a high of \$1.5 billion in 2008.
- **Private Equity investors are concerned with legacy investments.**
  - *Pitchbook* reports that 5,994 companies were owned by private equity managers at the end of 2010, a substantial increase from the 1,620 owned by private equity managers at the end of 2003.
  - Exits for venture capital managers picked up during 2010 – during the fourth quarter alone, 32 venture-backed companies went public, half of which were outside of the IT industry.
    - Of the companies that exited through an IPO, 17 were backed by China-based private equity managers.
- **“Wall of debt maturities “ has been pushed to 2014 and beyond, creating opportunities in distressed situations.**
  - Continued deleveraging should lead to attractive opportunities for those with patient capital.



- **Fitch, Moody’s and Standard & Poor’s each anticipate CMBS default rates will range from 10-12% in 2011 based on expectations that property fundamentals are stabilizing and liquidity is returning to the market.**
  - *Commercial Mortgage Alert* has reported that the forecast for CMBS issuance during 2011 is \$39 billion, up substantially from \$2.9 billion in 2009 and \$12.3 billion in 2010, but dramatically lower than the \$230.2 billion issued during 2007.
- **Through November 2010, sales of institutional quality real estate (properties over \$5 million in value) totaled \$79.3 billion, comparable to the \$79.4 billion sold in 2001, but significantly lower than the \$430.7 billion sold in 2007.**
  - Office space remains a tenant’s market; office rents are approximately 25% below 2008 levels as the vacancy rate reached its highest point since 1993 (17.6%).

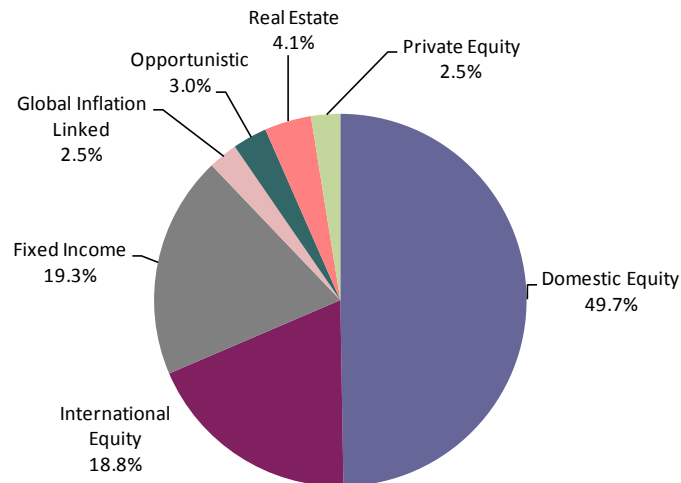
# IMD's Recent Activities

- Continued to implement allocation to asset classes and rebalancing
  - Additions:
    - Funded 3 Emerging Markets Equity Managers
    - Selected 2 International Small Cap Equity Managers (1 Incumbent, 1 New)
    - Selected 4 Developed Non-U.S. Equity Managers (2 Incumbents, 2 New)
  - Terminations
    - 1 Developed Non-U.S. Equity Manager
- Tactically reduced exposure to Core Fixed Income relative to SAA Policy
- Tactically increased exposure to Emerging Markets relative to SAA Policy

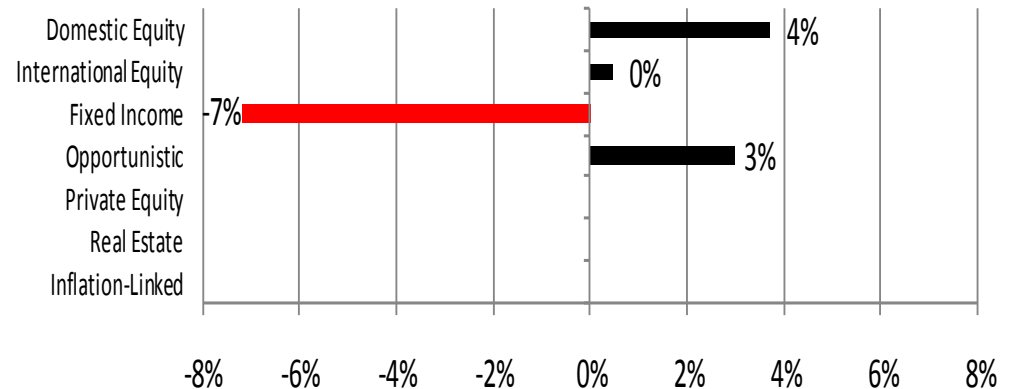
# Total Fund Portfolio Positioning

(as of February 22, 2011)

## Actual Asset Allocation



## Actual Asset Allocation vs. SAA Policy Adjusted for Transition into Real Estate, Private Equity and Inflation-Linked Assets\*



\*Real Estate, Private Equity and Inflation-Linked Assets actual weights are equal to policy weights during the implementation of these asset classes.

\*Over/Under- weights include both GTAA positions as well as IMD tactical considerations.

# Present/Future

# NEPC 2011 Capital Market Observations

- **Investors face an even lower market return environment**
  - Bond yields are the lowest in over 50 years, limiting future returns
  - Stock fundamentals unlikely to support a higher risk premium over bonds
  - Economic growth muted as unemployment and debt overhand are not solved
  - Long-term investors should expect higher nominal returns in the future, as indicated by a very steep yield curve
- **Most markets have been driven by macro/top down factors**
  - “Risk on/risk off” determination of returns, not based on fundamentals
  - A return to company and security differentiation seems overdue
- **Quantitative easing by Federal Reserve dominates markets**
  - Creates steep yield curve and extends macro, high correlation environment
  - Increases currency pressures on emerging markets
  - Unconventional actions by central banks have led global economy into uncharted waters, increasing uncertainty for the future
- **Global currency regime under stress**
  - Fuels recent commodity run and raises risk of long-term price inflation
  - Political risk of protectionism and capital controls

# NEPC 2011 General Actions for Clients

- **Maintain asset allocation discipline**
  - Continue to stress risk management while opportunities remain limited
  - Emerging market equity and debt (esp. local currency) remain attractive
    - Typical implementation is underweight emerging's growing share of the world economy
  - Real asset prices reflect inflation fears, but may have buying opportunities
- **Examine portfolio structure – the implementation within each asset class – for example:**
  - Top-down strategies that could benefit from continued macro markets
  - Long/short and/or quality-focused managers within the equity allocation
  - Fixed income structured into objective-driven hedges and/or global unconstrained strategies
  - International equity to include small cap developed and emerging markets
    - Accessing growth of the emerging consumer
- **Continue to build illiquid strategies – illiquidity premium remains attractive**
  - Multiple forms of distressed lending remain attractive
  - Real estate offers pockets of opportunity, but proceed with caution
- **Consider hedging of developed market currency to reduce uncompensated risk**
  - Some international managers have hedged or half-hedged products
  - Overlay managers can customize hedging across the portfolio

# SAA Policy Expected Return w/2011 Capital Market Assumptions

	w/2010 Capital Market Assumptions	w/2011 Capital Market Assumptions
U.S. Large Cap Equities	28%	28%
U.S. Small/Mid Cap Equities	12%	12%
Int'l Equities	15%	15%
Emerging Int'l Equities	3%	3%
<b>Total Equity</b>	<b>58%</b>	<b>58%</b>
Core Bonds	24%	24%
High Yield Bonds	2%	2%
<b>Total Fixed Income</b>	<b>26%</b>	<b>26%</b>
Private Equity	7%	7%
Real Estate	6%	6%
Commodities	3%	3%
<b>Total Alternatives</b>	<b>16%</b>	<b>16%</b>
<b>Expected Return (compound)</b>	7.8%	6.9%
<b>Expected Risk (volatility)</b>	12.6%	12.8%
<b>Sharpe Ratio</b>	0.42	0.34
<b>Sortino Ratio (0% Minimum Acceptable Return)</b>	0.79	0.66
<b>Probability of &lt; 0% over 1 year</b>	25.8%	29.5%
<b>Probability of &lt; 0% over 5 Years</b>	7.3%	11.5%
<b>30 Year Expected Return (compound)</b>	9.2%	8.6%



# NEPC 2011 5-7 Year Forecasts

Geometric Expected Return			
Asset Class	2010	2011	2011-2010
Cash	2.00%	2.00%	0.00%
Treasuries	2.75%	2.00%	-0.75%
Credit	5.50%	4.00%	-1.50%
MBS	4.00%	3.50%	-0.50%
TIPS	3.50%	2.25%	-1.25%
High-Yield Bonds	8.00%	6.25%	-1.75%
Global Bonds (Unhedged)	3.25%	1.75%	-1.50%
Global Bonds (Hedged)		1.92%	
EMD External	6.50%	5.25%	-1.25%
EMD Local Currency		6.25%	
Large Cap Equities	7.75%	7.00%	-0.75%
Small/Mid Cap Equities	8.00%	7.00%	-1.00%
Int'l Equities (Unhedged)	8.00%	7.00%	-1.00%
Int'l Equities (Hedged)		7.25%	
Emerging Int'l Equities	9.50%	9.00%	-0.50%
Private Equity	10.00%	9.50%	-0.50%
Private Debt	10.00%	9.25%	-0.75%
Real Estate	7.00%	6.00%	-1.00%
Commodities	4.75%	4.50%	-0.25%
Hedge Funds Low Vol	6.25%	5.75%	-0.50%
Hedge Funds Mod Vol	7.50%	7.00%	-0.50%

Volatility			
Asset Class	2010	2011	2011-2010
Cash	1.50%	1.50%	0.00%
Treasuries	5.50%	6.00%	0.50%
Credit	7.00%	7.00%	0.00%
MBS	9.00%	10.00%	1.00%
TIPS	7.00%	7.50%	0.50%
High-Yield Bonds	12.00%	12.00%	0.00%
Global Bonds (Unhedged)	10.00%	9.00%	-1.00%
Global Bonds (Hedged)		5.00%	
EMD External	15.00%	12.00%	-3.00%
EMD Local Currency		15.00%	
Large Cap Equities	18.00%	18.00%	0.00%
Small/Mid Cap Equities	23.00%	22.00%	-1.00%
Int'l Equities (Unhedged)	21.00%	21.00%	0.00%
Int'l Equities (Hedged)		19.00%	
Emerging Int'l Equities	29.00%	28.00%	-1.00%
Private Equity	30.00%	28.00%	-2.00%
Private Debt	19.00%	19.00%	0.00%
Real Estate	15.00%	15.00%	0.00%
Commodities	22.00%	20.00%	-2.00%
Hedge Funds Low Vol	7.00%	7.00%	0.00%
Hedge Funds Mod Vol	12.00%	12.00%	0.00%

# IMD Investment House Views

- **Fixed Income**

- The potential for attractive returns from the fixed income markets going forward has meaningfully diminished due to a combination of significantly lower interest rates and significant spread tightening.
- The absolute low level of yields combined with lower spreads limits potential returns. While we continue to believe that select markets such as securitized credit should provide attractive returns and outperform core fixed income, we recently reduced our holdings in high yield bonds by approximately one-half to a 1% weighting vs. an SAA target of 2%. The high yield market has experienced substantial spread tightening and strong returns since 2009 and is now offering yields that are at historic lows.

- **US Equities**

- After a strong start on the year, implications of building Chinese inflation have eclipsed Sovereign debt anxieties to become the chief hindrances to higher stock prices.
- Near-term, prices of both the mid-cap and small-cap market sectors are slightly ahead of strong underlying fundamentals and, expectedly, are due for modest pull-backs before advancing further. Prices are less extended for the large-caps. Nevertheless, current monetary policy is supportive of higher asset prices, particularly equities.
- IMD reduced its moderate tactical bias in U.S. Equities relative to Non-U.S. Equities and to the overall fund. The residual bias is being held in reserve for eventual additional funding of the commodities asset class.

- **International Equities**

- Most global markets during 2010 have trailed those in the U.S. resulting in valuations that are reasonable. Europe remains least extended, but is constrained by the burden of some languishing regional economies. Asian economies continue to outpace Western economies. Risk reduction has also served to somewhat firm exchange rates for the U.S. Dollar in addition to the Japanese Yen, but longer-term, the markets prefer the commodities-linked currencies.
- IMD reduced its under-weight to Non-U.S. Equities to approximate parity with the SAA policy as it completes restructuring of the asset class.
- Additional restructuring within the Non-U.S. Equities class funded the new Emerging Markets sub-class.
- IMD continues to favor an active strategic allocation to Emerging Markets and less active exposure to developed Non-U.S. Equities.

# IMD Investment House Views

- **Private Equity**

- Private Equity continues to favor managers with proven investment processes and top quartile returns who manage funds that target companies with enterprise values in the small, lower middle and middle markets.
- These segments of the market appear to represent the largest opportunity set for portfolio company acquisitions, which historically have been underserved, employed lower levels of leverage, focused on operational enhancements to add value and achieved lower purchase price multiples.
- Over the coming months IMD will focus its efforts on energy investments, opportunistic acquisitions of secondary interests, co-investments, focused infrastructure opportunities, augmenting the Program's emerging markets exposure, distressed-for-control and turnaround.

- **Real Estate**

- Real estate is near an inflection point, where valuations appear to have bottomed and in the case of core well located assets, increasing in price. Yet fundamentals are still a mixed bag with apartments and hotels seeing some improvement in fundamentals while office, industrial and retail still are struggling.
- The CMBS market appears ready to show some life in 2011 and distressed debt investing may be the next great opportunity due to the financing gap from over \$1 trillion dollars of debt maturing over the next three at high LTV ratios that will not be refinanced by lenders today at those levels.

- **Opportunistic**

- IMD believes opportunities continue to exist in select fixed income markets with such tactical investments made primarily through ASRS opportunistic fixed income investment managers.
- IMD has reduced some exposure in CMBS and RMBS through the defunding of a manager following a rapid recent price appreciation in these sectors.

# Investment Initiatives

- Tactical Investment Opportunities
- Governance Handbook Review
- Sourcing of Public/Private Investment Opportunities
- Total Fund Rebalancing Process
- Investment Symposium
- CIO Risk Management Tools
- Investment Beliefs

# Appendix

# Strategic Asset Allocation (SAA)

## Policy History

- 7/1/75 – 12/31/79 – 40% S&P 500/60% Barclays Capital Aggregate
  - 1/1/80 – 12/31/83 – 50% S&P 500/50% Barclays Capital Aggregate
  - 1/1/84 – 12/31/91 – 60% S&P 500/40% Barclays Capital Aggregate
  - 1/1/92 – 12/31/94 – 50% S&P 500/40% Barclays Capital Aggregate/10% MSCI EAFE
  - 1/1/95 – 6/30/97 – 45% S&P 500/40% Barclays Capital Aggregate/15% MSCI EAFE
  - 7/1/97 – 12/31/99 – 50% S&P 500/35% Barclays Capital Aggregate/15% MSCI EAFE
  - 1/1/00 – 9/30/03 – 53% S&P 500/30% Barclays Capital Aggregate/17% MSCI EAFE
  - 10/1/03 – 12/31/06 – 53% S&P 500/26% Barclays Capital Aggregate/15% MSCI EAFE/ACWI ex-U.S.<sup>1</sup>/6% NCREIF ODCE (lagged one quarter)
  - 1/1/07 – 10/31/2009 – 31% S&P 500/7% S&P 400/7% S&P 600/26% Barclays Capital Aggregate/18% MSCI ACWI ex-U.S./6% NCREIF ODCE (lagged one quarter)/5% Russell 2000 (lagged one quarter)
  - 11/1/2009 – present – 28% S&P 500/6% S&P 400/6% S&P 600/24% Barclays Capital Aggregate/2% Barclays Capital High Yield/13% MSCI EAFE/2% MSCI EAFE Small Cap/3% MSCI Emerging Markets/6% NCREIF ODCE (lagged one quarter)/7% Russell 2000 (lagged one quarter)/3% Dow Jones/UBS Commodities Index
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- \*Interim SAA Policy: 35% S&P 500, 7% S&P 400, 7% S&P 600, 19% MSCI ACWI ex-U.S., 27% Barclays Capital Aggregate, 4% NCREIF ODCE (lagged one quarter), and 1% Russell 2000 (lagged one quarter)
  - Note: Interim SAA Policy includes a proration of 2% Real Estate, 6% Private Equity, and 3% Inflation-Linked, which are unfunded. 9% of the proration is allocated to domestic equity, 1% to non-U.S. equity and 1% to fixed income.

<sup>1</sup>MSCI EAFE/ACWI ex-U.S. Benchmark is the MSCI EAFE Index prior to 10/1/2005 and the MSCI ACWI ex-U.S. thereafter